

**Claims**

1. Mechanism for securing data access of a first subscriber  
5 (11) or a plurality of subscribers (12...14), which are  
arranged in a first subnetwork (20) of an automation network  
(1), to a second subscriber (15) or a plurality of subscribers  
(10, 11), which are arranged in a second subnetwork of the  
automation network (1), comprising at least one so-called  
10 secure switch (16, 24, 26), which is connected upstream of the  
first subscriber (11) or subscribers (12...14) of the first  
subnetwork (20), for establishing what is known as a tunnel  
(29, 30) to the second subscriber (15) or subscribers (10, 11)  
of the second subnetwork, by which data can be securely  
15 transmitted via an insecure network, wherein the secure switch  
(16, 24, 26) establishes the tunnel in a substitutional manner  
for the first subscriber (11) or in a substitutional manner for  
the subscribers (12...14) of the first subnetwork (20) and  
allocates the tunnel to the subscriber or subscribers by using  
20 the respective subscriber address.
2. Mechanism according to claim 1, characterized in that a  
configuration tool (11) is provided for configuring the  
automation network (1), by which parameter data of the secure  
25 switch (16, 24, 26) can automatically be generated and  
transmitted to the secure switch.
3. Mechanism according to either claim 1 or claim 2,  
characterized in that the secure switch (16, 24, 28) is  
30 constructed as an Ethernet switch and at least one port (17,  
25, 28) is configured as a layer 3 port for producing a tunnel  
end point.
4. Mechanism according to claim 3, characterized in that the  
35 IPsec protocol can be applied to produce the tunnel end point.

5. Mechanism according to any one of the preceding claims, characterized in that the secure switch (40) has at least one port (47, 49, 50) which is constructed as a WLAN end point and is capable of producing a tunnel end point.

6. Mechanism according to any one of the preceding claims, characterized in that the secure switch is constructionally suitable for use in an automation system.

7. Mechanism according to any one of the preceding claims, characterized in that a port (45) capable of producing a tunnel end point can be distinguished from other ports (41...44) of the secure switch (40) by a marking.

8. Mechanism according to claim 7, characterized in that the marking can be changed over.

9. Coupling device, referred to as a secure switch, for securing data access of a first subscriber or a plurality of subscribers, which are arranged in a first subnetwork of an automation network, to a second subscriber or a plurality of subscribers, which are arranged in a second subnetwork of the automation network, wherein the secure switch can be connected upstream of the first subscriber or subscribers of the first subnetwork, and comprises a device (46), referred to as a secure channel converter, for establishing what is known as a tunnel to the second subscriber or subscribers of the second subnetwork, by which data can be securely transmitted via an insecure network, wherein the tunnel can be established in a substitutional manner for the first subscriber or subscribers of the first subnetwork and can be allocated to the subscriber or subscribers by using the respective subscriber address.